

Serial Nr.: 10/618,038
Art Unit: 2821

03173-URL

AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A digital lighting system controller with video input capability, comprising: ~~a video decoder and computer display interface, an address and data generator, a memory, a pre-sequenced coordinates table, and a microprocessing unit, wherein said video decoder and computer display interface can receive and convert both video input and VGA input into a format to input to said address and data generator, said address and data generator then generates a plurality of data sets to be written into said memory, which further comprising an address area and a lighting data area, said pre-sequenced coordinates table stores the coordinates of lighting bulbs or dots in a preset sequence for said microprocessing unit to read, said microprocessing unit reads the coordinates in said table in a sequential order, finds the corresponding lighting data of that coordinates in said lighting data area, and outputs said lighting data~~
- a video decoder and computer display interface for receiving video input and VGA input and generating formatted data;
- an address and data generator for receiving said formatted data and generating a plurality of data sets including coordinate data and lighting data;
- a memory having an address area for storing said coordinate data and a lighting data area for storing said lighting data;
- a pre-sequenced coordinate table for storing coordinate data of lighting bulbs or dots in a preset sequence; and

Serial Nr.: 10/618,038
Art Unit: 2821

03173-URL

a microprocessing unit for reading the coordinate data of lighting bulbs in said pre-sequenced coordinate table in a sequential order, finding the lighting data corresponding to the coordinate data of lighting bulbs from said lighting data area, and generating output lighting data;

wherein said controller has a pixel sharing algorithm for increasing resolution of the output lighting data.

2. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim 1, wherein said video input ~~is can be~~ from LD, VCR, live video or camera equipments.
3. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim 1, wherein said VGA input ~~is can be one of the following computer images:~~ analog VGA, DVI or LVDS interface data.
4. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim 1, wherein said coordinate data stored in said address area has a format of (X,Y) coordinates to represent the X and Y coordinates of ~~[[said]]~~ lighting ~~[[bulb]]~~ bulbs, and said lighting data stored in said lighting data area has a format of (R,G,B) to represent ~~[[the]]~~ red, green and blue components of ~~[[said]]~~ lighting ~~[[bulb]]~~ bulbs.
5. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim 1, wherein said lighting data area ~~is 307 can be~~ set to the size of 320X240, 640X480, 800X600, 1024X768 or 1280X1024.
6. (Cancelled)

Serial Nr.: 10/618,038
Art Unit: 2821

03173-URL

7. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim 1, wherein said output lighting data ~~is can be~~ either in the format of ~~[[the]]~~ DMX-512 standard that requires a fixed address, or serial data that does not require a fixed address.
8. (Cancelled).
9. (Currently Amended) A digital lighting system controller with video input capability as claimed in Claim ~~[[8]]~~ 1, wherein said pixel sharing algorithm is to compute the lighting data of a selected lighting bulb in combination of lighting data of neighboring lighting bulbs of said selected lighting bulb in order to obtain the lighting data of said selected lighting bulb.
10. (New) A digital lighting system controller with video input capability, comprising:
- a video decoder and computer display interface for receiving video input and VGA input and generating formatted data;
 - an address and data generator for receiving said formatted data and generating a plurality of data sets including coordinate data and lighting data;
 - a memory having an address area for storing said coordinate data and a lighting data area for storing said lighting data;
 - a pre-sequenced coordinate table for storing coordinate data of lighting bulbs or dots in a preset sequence; and
 - a microprocessing unit for reading the coordinate data of lighting bulbs in said pre-sequenced coordinate table in a sequential order, finding the lighting data

Serial Nr.: 10/618,038
Art Unit: 2821

03173-URL

corresponding to the coordinate data of lighting bulbs from said lighting data area,
and generating output lighting data;
wherein said coordinate data in said pre-sequenced coordinate table is downloaded
from an RS-232 serial, a parallel port, a USB or IEEE1394 interface, from memory
devices such as ROM, EPROM, EEPROM, flash or other memory cards, or input
from a keyboard.